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## From JavaScript to Rust ebook

This repository houses an ebook-ified version of the 24+ post series started on vino.dev.

### How to build

The ebook is built using asciidoctor and requires ruby >2.3.

Install the ruby dependencies via `make deps`

```
1 $ make deps
```

Build a PDF via the command `make book`

```
1 $ make book
```

### Running code and projects

All code are housed in the `src/` directory.

#### Day 4

- `cargo run -p day-4-hello-world`
- `cargo run -p day-4-strings-wtf-1` - intentionally does not compile.
- `cargo run -p day-4-strings-wtf-2` - intentionally does not compile.

#### Day 5

##### Reassigning

- JS: `node javascript/day-5/let-vs-const/reassigning.js`
- Rust: `cargo run -p day-5-let-vs-const --bin reassigning`
- `cargo run -p day-5-let-vs-const --bin reassigning-wrong-type` - intentionally does not compile

##### Borrowing

- `cargo run -p day-5-borrowing --bin borrow`
- `cargo run -p day-5-borrowing --bin mutable-borrow` - intentionally does not compile

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## Day 6

- `cargo run -p day-6-loads-of-strings --bin 200-unique-prints`
- `cargo run -p day-6-loads-of-strings --bin 200-prints`
- `cargo run -p day-6-loads-of-strings --bin 200-empty-prints`
- `cargo run -p day-6-loads-of-strings --bin one-print`

## Day 7

### Syntax

- `cargo run -p day-7-syntax`

## Day 8

### Maps

- `ts-node javascript/day-8/src/maps.ts`
- `cargo run -p day-8-maps`

### Structs

- `ts-node javascript/day-8/src/structs.ts`
- `cargo run -p day-8-structs`

## Day 9

## Day 10

## Day 11

### Modules

- `cargo run -p day-11-modules --bin nested-submodules`
- `cargo run -p day-11-traffic-light`

## Day 12

- `cargo run -p day-12-impl-tostring`
- `cargo run -p day-12-impl-asref-str`

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## Day 13

- `cargo run -p day-13-option`
- `cargo run -p day-13-result`
- `cargo run -p day-13-question-mark`

## Day 14

### From/Into

- `cargo run -p day-14-from-into`

**Errors** These examples require setting an environment variable. How to do that in your environment might look different.

- `MARKDOWN=README.md cargo run -p day-14-boxed-errors`
- `MARKDOWN=README.md cargo run -p day-14-custom-error-type`
- `MARKDOWN=README.md cargo run -p day-14-thiserror`
- `MARKDOWN=README.md cargo run -p day-14-error-chain`
- `MARKDOWN=README.md cargo run -p day-14-snafu`

## Day 16

### Closures

- `cargo run -p day-15-closures`

## Day 16

### Type differences

- `cargo run -p day-16-type-differences --bin impl-owned`
- `cargo run -p day-16-type-differences --bin impl-borrowed`

### 'static

- `cargo run -p day-16-static` - intentionally does not compile
- `cargo run -p day-16-static-bounds` - intentionally does not compile

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## Lifetime elision

- `cargo run -p day-16-elision`

## Unsafe pointers

- `cargo run -p day-16-unsafe-pointers`

## Day 17

### Arrays

- `cargo run -p day-17-arrays`
- `ts-node javascript/day-17/src/arrays.ts`

### Iterators

- `cargo run -p day-17-iterators`
- `ts-node javascript/day-17/src/iterators.ts`

### Names example

- `cargo run -p day-17-names`

## Day 18

- `cargo run -p day-18-async --bin send-sync`
- `cargo run -p day-18-async --bin simple`
- `cargo run -p day-18-async --bin lazy`
- `cargo run -p day-18-async --bin fs`
- `cargo run -p day-18-async --bin async-blocks`

## Day 19

First you must cd into `crates/day-19/project`

- `cargo test`
- `cargo run -p cli`

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## Day 20

First you must cd into `crates/day-20/project`

- `RUST_LOG=cli=debug cargo run -p cli`

## Day 21

**waPC runner** First you must cd into `crates/day-21/project`

- `cargo run -p cli -- crates/my-lib/tests/test.wasm hello "Potter"`

**waPC guest (hello)** First you must cd into `crates/day-21/wapc-guest`

- Build with `make`

## Day 22

### Serde

- `cargo run -p day-22-serde`

**waPC runner** First you must cd into `crates/day-22/project`

- `cargo run -p cli -- crates/my-lib/tests/test.wasm hello hello.json`
- `cargo run -p cli -- ./blog.wasm render ./blog.json`

**waPC guest (blog)** First you must cd into `crates/day-22/wapc-guest`

- Build with `make`

## Day 23

- `cargo run -p day-23-rc-arc --bin references`
- `cargo run -p day-23-rc-arc --bin rc`
- `cargo run -p day-23-rc-arc --bin arc`
- `cargo run -p day-23-rc-arc --bin rwlock`
- `cargo run -p day-23-rc-arc --bin async` - intentionally does not compile

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